



Ultimatic 125 Nozzle Series Maintenance and Service Procedure

⚠ WARNING

Service technicians bear responsibility for ensuring use of appropriate protective clothing and equipment. The chosen protective clothing and equipment must provide protection from potential hazards users may encounter while servicing equipment. Requirements for protective clothing and equipment are determined by the Authority Having Jurisdiction (AHJ).

⚠ WARNING

After any maintenance or service, equipment must be inspected and tested for proper operation and function per NFPA 1962 test procedures and the FLOW CHARACTERISTICS and OPERATION and INSPECTION CHECKLIST in the nozzle's operator manual.

NOTICE

This publication is intended for those who prefer to perform service on their own equipment. Factory service is available and repair time seldom exceeds one day in our facility. Factory serviced nozzles are repaired by experienced technicians, fully tested, and promptly returned functioning to original specifications. Task Force Tips assumes no liability for damage to equipment or injury to personnel that is a result of user service.

1.0 GENERAL INFORMATION

1.1 REQUIRED TOOLS

Tools for General Service	
Hex Keys 3/32", 3/16", and 7/32"	Loctite® #271 and #242 thread locker or equivalent
Ball End Hex Key 5/16"	Oxyacetylene Torch
Molykote #112 high temperature silicone grease	Razor Knife

Tools for FRONT END Service
Strap Wrench
Vise with padded jaws
Ultimatic Shaper Removal Tool optional (TFT part# TB502-ST)

1.2 THREADED JOINTS

Threaded joints have been secured at the factory using Loctite brand thread locking adhesive #263 (red) or #242 (blue).

- Disassembly of joints where #263 Loctite is used requires a minimal application of heat with a oxyacetylene torch to break the bond.
- The threads should be heated to approximately 450°F. Excessive heat application will cause damage to adjacent seals and labels.
- Replacement parts must be reinstalled using either Loctite #271 or #242 where specified, or equivalent. Small vials of Loctite for field service are available. Order part # V5010 (#271 LOCTITE MINI DISPENSER) or VSA-125 (LOCTITE BLUE #24205 MINI DISPENSER).
- Threads must be clean, dry, and free of grease or oil when applying Loctite.
- Allow Loctite to set up for at least one hour before using or subjecting to water.

1.3 LUBRICANTS

If parts are disassembled in an area where O-rings are present, re-assemble using Molykote #112 High Performance Silicone Grease on all O-rings and surfaces that the O-rings contact. If nozzle is not disassembled refer to the field lubrication procedure in the nozzle manual.

⚠ CAUTION

Aerosol lubricants contain solvents that can swell O-Rings if applied in excess. The swelling can inhibit smooth operation of the moving parts. When used in moderation, as directed, the solvents quickly evaporate without adversely swelling the O-Rings.

1.4 LABEL REPLACEMENT

If labels become damaged, remove old labels with razor knife. Remove adhesive with acetone or methyl ethyl ketone. Surface must be clean, dry, and free from grease. Remove protective backing and carefully apply new label.

1.5 ORDERING PARTS

Always specify the serial number of the nozzle when ordering parts. The serial number is found on the top of the VALVE BODY. Be sure to use complete DESCRIPTION and PART #, as printed on parts list. All requests for couplings must specify thread size. Pricing information will be given at time of order.

2.0 COUPLING SERVICE PROCEDURE

2.1 GENERAL

- Occasional replacement of HOSE GASKET is recommended.
- Replace GASKET GRABBER (9) if impact from debris has caused damage.
- Coupling service kits, which include all hardware and Loctite are available. Couplings with special or standard threads are available. Specify desired threads when ordering.

2.2 COUPLING REMOVAL

Couplings are retained with a ball race and PORT PLUG.

1. Remove PORT PLUG (19) from side of VALVE ASSEMBLY (12).
2. Turn coupling so that hole faces down over a container, and rotate coupling back and forth to allow the BALLS (18) to drop out. End pressure may be needed to remove and install coupling balls.
3. When all balls are out of the groove, the coupling can be removed.
4. Remove GASKET GRABBER debris screen (9) and O-RING-127 (10) from the coupling.

2.3 COUPLING INSTALLATION

1. Inspect and if necessary replace the O-RING-127 (10). Clean and grease the ball bearing race and O-ring groove and install the O-ring onto the VALVE BODY (12).
2. Insert the GASKET GRABBER debris screen (9) onto the valve body with the raised end pointing toward the front of the nozzle.
3. Put the coupling onto the valve body and load 28 BALLS (18) into the ball groove.
 - A. Insertion of the balls is easier if the coupling is rotated slightly back and forth as the balls are loaded.
4. Insert PORT PLUG (19) into port on side of VALVE ASSEMBLY (12).

2.4 TIP ONLY BASE

The TIP ONLY BASE (26) is attached to the front end by threads which are retained by Loctite.

1. Apply heat to the knurled rib nearest the front of the nozzle. Damage to seals and labels can be reduced by protecting them with a wet cloth.
2. Unscrew the TIP ONLY BASE (26) from the front end.
3. Remove and replace O-RINGS (10 and 16).
4. Clean all threads, apply Loctite to threads and screw the front end and base back together.

3.0 BOLT ON PISTOL GRIP SERVICE

1. Remove SCREW (22) and WASHER (55) with a 5/16" ball end hex key to remove PISTOL GRIP (21) and SPACER (23).
2. To reinstall, clean thread and apply Loctite #271.
3. Tighten screw to 20 ft-lbs.

4.0 VALVE SERVICE PROCEDURE

4.1 SEPARATING THE FRONT END FROM THE VALVE ASSEMBLY

On models with valves:

1. Heat the two SET SCREWS (14) and remove with a 3/32" hex key.
2. Unscrew the front end from the valve assembly.
3. To reassemble see section on VALVE SHUTOFF ADJUSTMENT.

4.2 VALVE DISASSEMBLY SEQUENCE

4.2.1 VALVE HANDLE REMOVAL

1. Remove both BUTTON HEAD CAP SCREWS (4) from VALVE HANDLE (2) using a 3/16" hex key.
2. Slide CAM and SAFETY PINS (3 and 7) out of handle by gently tapping nozzle against work surface.
3. To remove handle, pull upward while containing the DETENT BALLS (6) and SPRINGS (8) with your thumbs to prevent their loss.

Service to interior valve parts should be done prior to reinstalling handle.

4.2.2 SLIDER AND SEAL REMOVAL

1. With handle and front end removed, pull the SLIDER (17) out from front of valve. It may be necessary to tap the open end of the VALVE BODY against a rubber or wood block to get the slide valve to come out.
2. Remove and discard QUAD-RINGS-4124 and -4216 (11 and 15), and O-RING-030 (16).

4.3 VALVE ASSEMBLY SEQUENCE

4.3.1 SLIDER AND SEAL INSTALLATION

1. Inspect SLIDER (17) for any raised metal at groove area and replace if necessary.
2. Insert QUAD-RINGS-4124 and -4216 (11 and 15), and O-RING-030 (16) into the appropriate grooves in the valve body.
3. Lubricate O-Rings and slider with silicone grease.
4. Push slider into the valve body narrow end first aligning the groove with the holes for the handle screws.

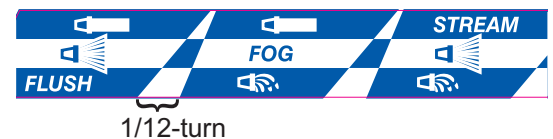
4.3.2 VALVE HANDLE INSTALLATION

1. Insert DETENT SPRINGS (8) and DETENT BALLS (6) into the handle lugs.
2. While holding balls in place, snap the HANDLE (2) onto valve body with offset holes FORWARD.
3. Carefully align the groove on SLIDER (17) with offset hole in valve discs and offset hole in handle.
4. Start SAFETY PIN (7) into offset hole in handle. Push down into engagement with groove in slider, until head of pin is flush with handle. Repeat procedure for CAM PIN (3). Be sure to use one CAM PIN and one SAFETY PIN in each handle assembly.
5. Apply Loctite #271 to the threads of both BUTTON HEAD SCREWS (4) and insert through lower handle holes. Thread each into corresponding center disk hole. Tighten button head screw securely.
6. Cycle handle and check that it snaps firmly and smoothly into all detent positions and that slider moves back and forth. If performed correctly, the face of the slider will follow the internal contour of the valve body.

4.3.3 VALVE SHUTOFF ADJUSTMENT

Shutoff valve is adjusted by the threads between the valve body and the front portion of the nozzle.

1. While holding the VALVE HANDLE (2) against stops in the OFF position, screw front end into the valve body until firm contact is made with the valve plug.
2. Open handle up to remove contact.
3. Screw the front end in 1/12-turn further to give the valve shutoff compression.
4. Close the Valve Handle to help center the Front End and Valve Body.
5. Apply Loctite #242 to SET SCREWS (14) and thread in both set screws until they bottom out, without applying pressure.
6. In an alternating fashion, continue turning in set screws until tight.



4.3.4 VALVE ADJUSTMENT FOR SEVERE COLD

To help prevent hose line freezing in cold climates, the valve may be adjusted for intentional leakage by installing the front end as previously described ([see section 4.3.3](#)) and backing off 1/12-turn. The valve can be returned to normal adjustment for complete shut off during warm weather by following the procedure in the previous section.

5.0 FRONT END SERVICE PROCEDURE

CAUTION

A control spring located inside the barrel assembly is under preload. Injury due to uncontrolled release of stored energy can occur. Never attempt to disassemble **BARREL ASSEMBLY (33 OR 36)**.

In the event that the barrel assembly needs service, return the complete nozzle to the factory for repairs, or replace the entire barrel assembly.

5.1 FRONT END DISASSEMBLY SEQUENCE

5.1.1 SHAPER REMOVAL

The rubber bumper is permanently bonded onto the stream shaper as a single unit the SHAPER WITH BUMPER (54). The shaper is attached to the SHAPER GUIDE (30) by a threaded joint that is retained by Loctite #271.

1. Grip rear portion of the nozzle in a vise with padded jaws.
2. Direct a hot narrow flame around the rear portion of the shaper. Heat for approximately 20 seconds, being careful not to damage the bumper or labels (a wet rag wrapped around these areas will help).
3. Use a strap wrench to unscrew the shaper from the shaper guide. Remove the shaper.
 - A. Inside the shaper are 46, 1/8" NYLON BALLS (53), retain the balls for installation.
4. If shaper is re-used, clean ball track and replace QUAD-RING-4225 (52) if damaged.

Service to remaining front end parts must be done before reinstalling shaper.

5.1.2 SHAPER GUIDE REMOVAL

1. Remove the 4 7/32" DIA. TORLON BALLS (32) from the SHAPER GUIDE (30).
2. Slide the SHAPER GUIDE (30) from the BARREL ASSEMBLY (33 or 36).

The balls are intended as a "fuse" to prevent permanent damage to BARREL ASSEMBLY (33 or 36). In the event of severe impact they will shear off. The pattern control however will remain functional by merely sliding back and forth.

5.2 FRONT END ASSEMBLY SEQUENCE

5.2.1 SHAPER GUIDE INSTALLATION

1. Slide SHAPER GUIDE (30) over BARREL ASSEMBLY (33 or 36).
2. Insert 4 7/32" DIA. TORLON BALLS (32) through the holes in the SHAPER GUIDE, into the grooves on barrel.

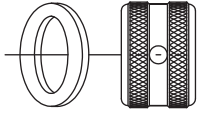
5.2.2 SHAPER INSTALLATION

1. Install QUAD-RING-4225 (52) in front groove of SHAPER WITH BUMPER (54).
2. Grease the seal and ball groove heavily. DO NOT get grease on the threads. This will contaminate the Loctite, making it ineffective.
3. Place 46, 1/8" NYLON BALLS (53) into greased ball groove.
4. With the SHAPER GUIDE fully forward in the straight stream position, apply Loctite #271 to male thread on SHAPER GUIDE (30). Start shaper onto SHAPER GUIDE threads.
5. Screw down shaper until threads bottom out.

6.0 EXPLODED VIEWS AND PARTS LISTS

COUPLINGS

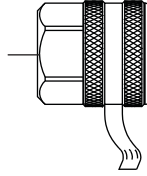
HOSE THREAD COUPLINGS



GASKET PART #	COUPLING PART #	THREAD SIZE
V3036	B681B (BSP)	0.75"
V3040	B680*	1.00"

*Specify desired thread when ordering couplings.

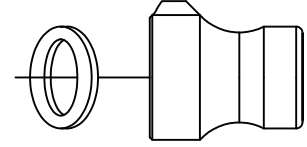
TAPER PIPE COUPLING



LABEL PART #	COUPLING PART #	THREAD SIZE
B722**	B668	1.00" NPT

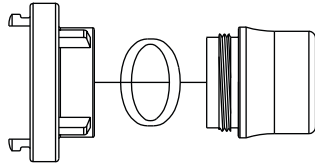
**Dry Chem nozzles ONLY

EXTENDED COUPLING



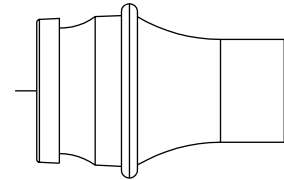
GASKET PART #	COUPLING PART #	THREAD SIZE
V3130	B694N	1.50" NH

STORZ COUPLINGS



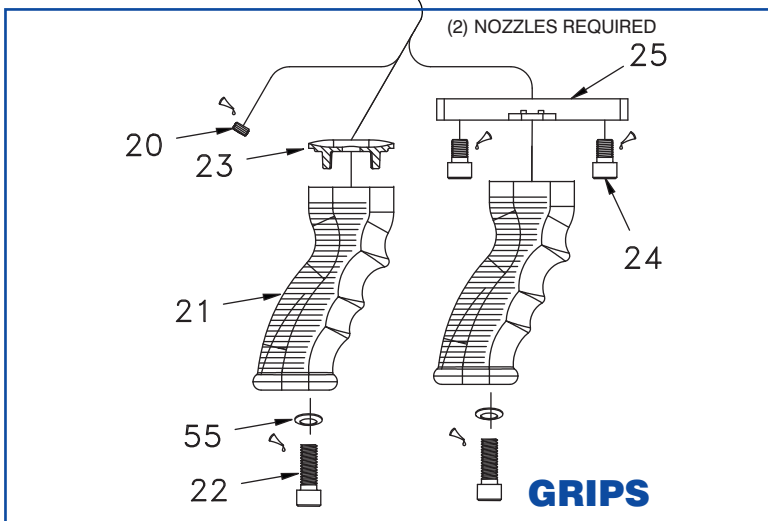
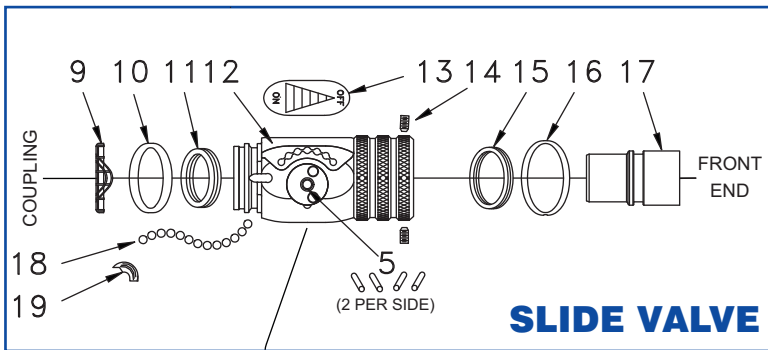
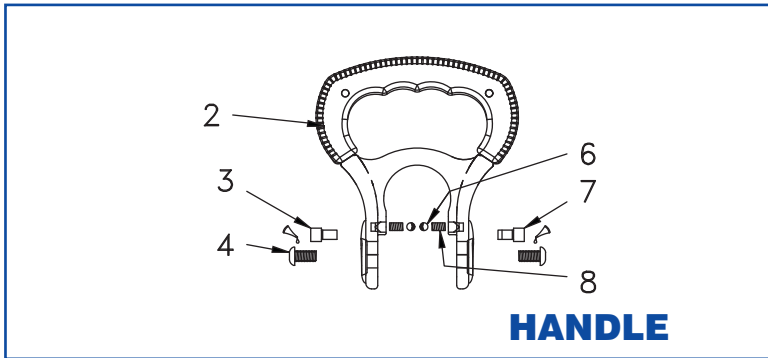
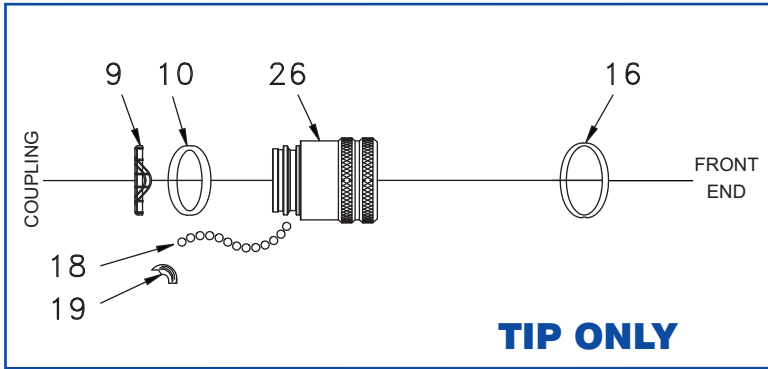
STORZ PART #	STORZ SIZE	O-RING PART #	COUPLING PART #
B686	38 mm	VO-128	B685
H686	55 mm	VO-134	B689
H689	65 mm	VO-143	B688

BRITISH INSTANTANEOUS



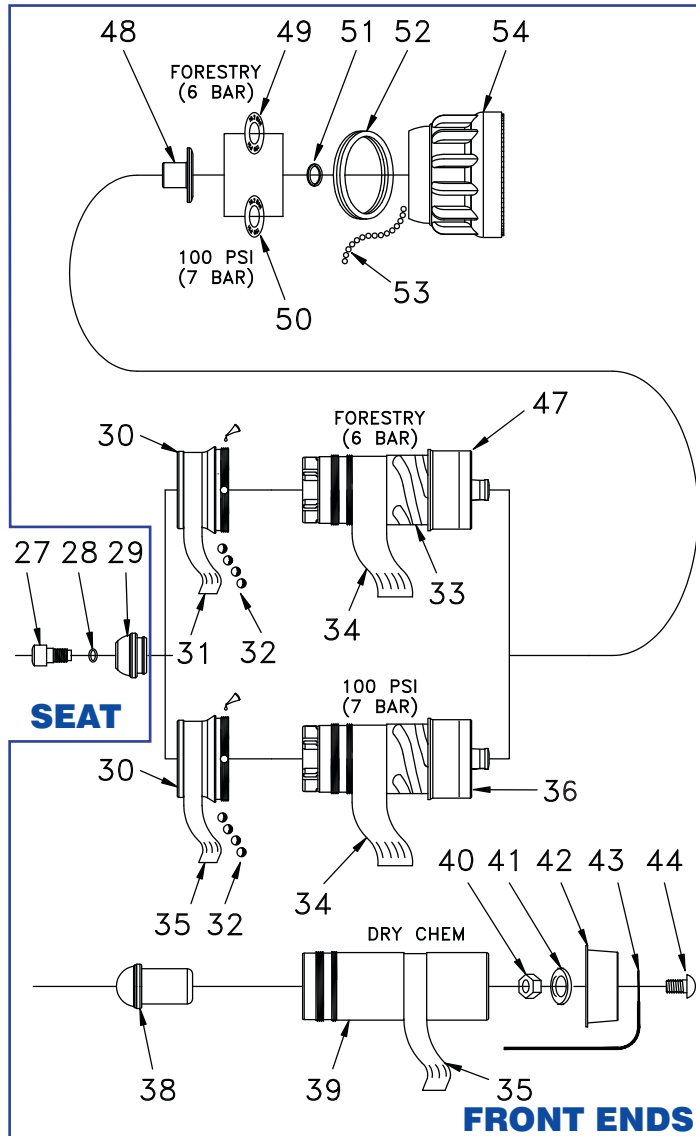
COUPLING PART #	SIZE
B679	1.5"
B687	2.5"

BACK END PARTS



	DESCRIPTION	QTY	PART #
2	VALVE HANDLE ASSEMBLY	1	B921
3	CAM PIN	1	B630
4	5/16-18 X 1/2" BH CAP SCREW	2	VT31E18BH500
5	DRAG NUBS	4	B650
6	3/16 TORLON BALLS	2	V2120-TORLON
7	SAFETY PIN	1	B635
8	SPRING	2	VM4195
9	1.0" GASKET GRABBER	1	B730
10	O-RING-127	1	VO-127
11	QUAD-RING-4216	1	VOQ-4216
12	VALVE ASSEMBLY	1	B910
13	VALVE LABEL	1	B750
14	10-32 X 3/16" SOCKET CAP SCREW	2	VT10Y32SS187
15	QUAD-RING-4124	1	VOQ-4124
16	O-RING-030	1	VO-030
17	SLIDER	1	B660
18	3/16 SS BALLS	28	V2120
19	PORT PLUG	1	B770
20	3/8-16 x 5/16 SOCKET SET SCREW CUP POINT	1	VT37-16SS312
21	PISTOL GRIP	1	HM692
22	3/8-16 x 1.0" SOCKET CAP SCREW	1	VT37-16SH1.0
23	SPACER	1	HM693-U
24	3/8-24 x 1/2" SOCKET CAP SCREW	2	VT37-24SH500
25	DUAL MOUNTING PLATE	1	B695
26	TIP ONLY BASE	1	B665
55	WASHER	1	VM4901

FRONT END PARTS



	DESCRIPTION	QTY	PART #
27	I/O SCREW	1	B595
28	O-RING-109	1	VO-109
29	VALVE PLUG	1	B590
30	SHAPER GUIDE	1	B510
31	NAME LABEL, FORESTRY	1	B745F
	NAME LABEL, 6 BAR	1	B745F-F
32	SHAPER BULLETS	4	B501
33	BARREL ASSY-FORESTRY (6 BAR)	1	B810F-KIT
34	BARREL LABEL	1	B740
	BARREL LABEL (RED)	1	B740-RED
35	NAME LABEL, 100 PSI	1	B745
	NAME LABEL, 7 BAR	1	B745-F
	NAME LABEL, 75 PSI	1	B745F
36	BARREL ASSEMBLY-100 PSI (7 BAR)	1	B810-KIT
38	DRY CHEM VALVE PLUG	1	B592

	DESCRIPTION	QTY	PART #
39	DRY CHEM FRONT END	1	B825
40	5/16-18 SS HEX JAM NUT	1	NT31-18NT
41	5/16 SS WASHER	1	VW31SS
42	PLASTIC CAPPLUG #18-X	1	VM1010
43	CABLE ASSEMBLY	1	VM1020
44	5/16-18 x 1/2" BH CAP SCREW	1	VT31E18BH500
47	BARREL CONE ASSEMBLY	1	B805-KIT
48	BAFFLE	1	B560
49	SPRING WASHER, FORESTRY (6 BAR)	1	B567
50	SPRING WASHER, 100 PSI (7 BAR)	1	B565
51	SMALLEY RING	1	V4280
52	QUAD-RING-4225	1	VOQ-4225
53	1/8 NYLON BALL	46	V2135
54	SHAPER WITH BUMPER	1	B500

7.0 REPAIR KITS AND SPECIALTY TOOLS

REPAIR KITS			
BARREL ASSEMBLY KIT	B810-KIT	HANDLE REPAIR KIT BEFORE 01/01/2001	B950-KIT
100 PSI FRONT END COMPLETE	B815		
VALVE BODY COMPLETE (NO GRIP)	B915	HANDLE REPAIR KIT 08/2005-PRESENT	B955-KIT
SHAPER REPAIR KIT	B880-KIT		
VALVE SEAL O/H KIT	B960-KIT	SHAPER REMOVAL TOOL	TB502-ST
LOCTITE MINI DISPENSER (BLUE)	VSA-125	LOCTITE MINI DISPENSER (RED)	V5010
RED PISTOL GRIP KIT	HM692RED-KIT	RED HANDLE COVER KIT	HM925RED-KIT
GREEN PISTOL GRIP KIT	HM692GRN-KIT	GREEN HANDLE COVER KIT	HM925GRN-KIT
BLUE PISTOL GRIP KIT	HM692BLU-KIT	BLUE HANDLE COVER KIT	HM925BLU-KIT
BLACK PISTOL GRIP KIT	HM692BLK-KIT	BLACK HANDLE COVER KIT	HM925BLK-KIT
ORANGE PISTOL GRIP KIT	HM692ORG-KIT	ORANGE HANDLE COVER KIT	HM925ORG-KIT
WHITE PISTOL GRIP KIT	HM692WHT-KIT	WHITE HANDLE COVER KIT	HM925WHT-KIT
YELLOW PISTOL GRIP KIT	HM692YEL-KIT	YELLOW HANDLE COVER KIT	HM925YEL-KIT
GREY PISTOL GRIP KIT	HM692GRY-KIT	GREY HANDLE COVER KIT	HM925GRY-KIT
PURPLE PISTOL GRIP KIT	HM692PPL-KIT	PURPLE HANDLE COVER KIT	HM925PPL-KIT
PINK PISTOL GRIP KIT	HM692PNK-KIT	PINK HANDLE COVER KIT	HM925PNK-KIT
TAN PISTOL GRIP KIT	HM692TAN-KIT	TAN HANDLE COVER KIT	HM925TAN-KIT

For questions regarding troubleshooting, parts, or repair, contact your local dealer or TFT's service department.

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